inflammatory condition, as shown by the absence of lymphoid and plasma cells in the vessel sheaths was again the differential point. In these cases of general paralysis of long duration this infiltration of the vessel sheaths with lymphoid and plasma cells, though slight, was perfectly characteristic and confirmed the clinical diagnosis. The speaker said that personally he had not seen the statement attributed to Dr. Adolf Meyer that in the end-stages of certain of these mental conditions the pathological findings were of little or no differential value, and that he could not reconcile this statement with Dr. Meyer's standpoint as he understood it. In reply to Dr. Hunt, he said that he had no opportunity of making histological studies in the brains of cases of pure locomotor ataxia, but only in those cases which had a mental disorder in addition to the ataxia, and, therefore, he could not say whether the changes in the brains of tabetics were analogous to those observed in dementia paralytica; in several of the tabetic cases, however, which had mental disorders, the characteristic changes of general paralysis were not present.

THE PHILADELPHIA NEUROLOGICAL SOCIETY

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The President, Dr. J. W. McConnell, in the Chair

A CASE OF PROBABLE OCCLUSION OF THE POSTERIOR INFERIOR CEREBELLAR ARTERY

By Horace Carncross, M.D.

F. R., 42 years of age, was utterly unable to speak, had difficulty in swallowing and some slight dribbling of saliva. His understanding was normal and he communicated by writing. There was a paralysis of the interarytenoid muscle, which left a triangular chink at the posterior commissure upon approximation of the weak vocal cords, and there was paralysis of the left palate and uvula, although the arch moved very slightly on the left side upon attempting to say "a." There were no other objective symptoms with the exception of an inability to stand well on the left foot alone, and a Babinski reflex on the left. These symptoms came on suddenly without loss of consciousness about 15 years ago, at which time there was the greatest difficulty in swallowing (fluids returning through the nose) and excessive dribbling of saliva. There was also weakness in the left leg. At present there is no disturbance of sensation. He was very emotional and for the past six years has had epilepsy. The convulsions are general and occur once or twice a month. There is a fairly satisfactory history of syphilis previous to his "stroke" 15 years ago. The present symptoms point to a lesion involving the nucleus ambiguus from which the motor fibers arise to supply the larynx and pharynx. The sudden onset of the pharyngeal and laryngeal paralysis following a syphilitic infection, and unaccompanied by loss of consciousness and either facial or other paralysis (except a slight weakness of the left leg) point to an occlusion of the right posterior inferior cerebellar artery as the most probable cause. There may have been crossed sensory disturbances at the time of onset but this could not be determined. There is at present no weakness in the left leg; knee jerks are very slightly increased.

Dr. Charles K. Mills said it was a very interesting case, but it did not seem to him that the diagnosis of the locality of the lesion was quite proved in the absence of certain features of the symptom complex. It is true that a long time had elapsed, but Dr. Mills thought that in a case where some symptoms were so persistent that others should have entirely disappeared. A cortico-subcortical tumor may give most of the features of this case. He recalled one case of brain tumor, the specimen now being in the Laboratory of Neuropathology of the University of Pennsylvania, in which a tumor extending from a point a little forward of the central fissure into the frontal lobe caused a pseudo-bulbar syndrome—orolingual paresis, lowering of the voice tone, left hemiparesis and left hemispasm—in which the symptom complex was somewhat like that now furnished by this patient.

Dr. W. G. Spiller stated that the man shown by Dr. Carncross had been coming to the Polyclinic Hospital some time. His symptoms developed some fifteen or more years ago and had been modified in the course of time. The great paralysis of the soft palate, which is a little more marked on the right side than on the left, the difficulty in swallowing, and the paralysis of the interarytenoid muscle are difficult to explain as the result of a cortical lesion without any weakness of the limbs or any involvement of the tongue. The attack, from the history given by the sister, occurred suddenly. The man was not paralyzed on either side of his body. It seemed to Dr. Spiller to be a case in which a lesion had developed in the medulla oblongata in the distribution of the posterior inferior cerebellar artery. Dr. Spiller said he could not understand the persistent paralysis of the soft palate on each side and the weakness of pharynx and larynx lasting for the period of fifteen years, from a cortical lesion of one side. The man was clearly syphilitic, he had arterial disease and probably his convulsions were due to syphilitic arteritis.

Dr. F. X. Dercum thought that the symptoms pointed to a bulbar rather than a lenticular lesion. An embolism involving the lenticular nucleus is perfectly conceivable but it would hardly give rise to so persistent a difficulty in swallowing and so persistent a paralysis of the soft palate. Notwithstanding the possibility of a lesion of the basal ganglia should be borne in mind. Another hypothesis favored by the absence of sensory symptoms would be that of a limited polioencephalitis inferior but this would not explain this case. Dr. Dercum understood from Dr. Spiller that the symptoms came on suddenly while the patient was awake. Dr. Dercum thought that this would be in favor of a lesion of a blood vessel rather than of a polioencephalitis. Polioencephalitis may, of course, come on rapidly, may come on over night, but if the symptoms come on suddenly, it would suggest rather occlusion of a vessel.

Dr. Carncross said that there was some doubt about the time of onset of the disease. The sister wrote that the condition came on in the morning while he was combing his hair. She asked him a question and he turned toward her but was unable to reply. He himself thought its onset was during the night. He was apparently not very ill at the time. It was impossible to give further details of the onset of the disorder. The man is able to write. His epilepsy came on six years ago, so that the connection between the symptoms is not from the beginning. The convulsions are general and are in no way focalized.

A CASE OF MORBID SLEEPINESS

By T. H. Weisenburg, M.D.

The patient is a young woman, 32 years of age, with an excellent family and past history. She has been raised on a farm and all her life has been accustomed to rising at 4:30 in the morning and going to bed about seven at night. At the age of sixteen it was first noticed that the patient would have a tendency to sleep at all hours of the day. She would, for instance, rise in the morning and directly after breakfast would put her head down on the table and go to sleep, this continuing until someone woke her. This has persisted ever since, or for 16 years. At one time for a period of about three years she was so drowsy that she would even go to sleep while on her feet. She would hang her head to one side and then would sink into a chair and sleep until someone would waken her. The period of her sleep would last indefinitely unless this was done. Within the last three years she has grown somewhat better.

Examination showed a young woman, well built, rather large features, skin of normal tension and nutrition. There was some mild refractive error which has been corrected by the wearing of glasses. Examination did not demonstrate any so-called neurasthenic or hysterical stigmata. The reflexes were normal and no discoverable neurological symptoms were found. Thyroid gland was not enlarged and there was no suggestion of myxedema or acromegaly. The urine and blood examinations were negative. The patient has been placed upon static electricity and suggestive treatment, the course of her daily routine has been changed and she has improved very much and now bids fair to become cured of her disorder.

This case is interesting from many standpoints. While it is not uncommon to have a morbid sleepiness in neurasthenic and hysterical persons, and in some forms of brain tumor, it is rather unusual for a condition to have persisted sixteen years and then yield to treatment in the short period of two weeks. Another rather interesting feature of her disorder has been that for many years she has never been able to laugh audibly. She is usually of a cheerful, optimistic disposition, and while she would smile she would not laugh. This has since been improved very much and she is now able to laugh like any other person.

Dr. Carncross stated that he had seen a woman at the Polyclinic a few days ago who had a constant desire to go to sleep. She went to sleep in the morning and any time during the day. She did not rise at an unusually early hour in the morning and went to bed at six in the evening. She was extremely melancholy and had no ambition to do anything. She also had some peculiar ideas which Dr. Carncross did not remember; they were not very distinct.

Dr. Dercum said he thought we had all seen cases of sleep disturbance which approximate the case shown by Dr. Weisenburg. However, he did not recall a patient who slept as much as the young woman presented. He had had a young mulatto woman under his care who fell asleep under all sorts of conditions and circumstances. The case proved to be one of myxedema. It was an incomplete form of myxedema. It was one of the first cases he had ever seen and he did not at first recognize it. The patient got a great deal better under thyroid extract. It appeared to him that even cases which apparently are purely psychic, might also be benefited by thyroid extract. The latter seemed preferable to caffeine. It is a cerebral stimulant and in sufficient dose will keep the patient awake. It should be started in moderate dose and gradually increased until some effect was noted.

Dr. Weisenburg thought that Dr. Dercum's suggestion of giving thyroid extract was a good one and he would act upon it. He thought the case was psychic rather than resulting from an organic cause inasmuch as he had been able to almost entirely cure her in a few weeks. He had used caffeine in very slight doses but had principally relied upon suggestive therapeutics. He had changed her whole course of life, regulated her habits and had used static electricity.

TRAUMATIC HYSTERIA FOLLOWING WOUNDS IN THE HEAD

By Charles W. Burr, M.D.

The patient was a machinist, 33 years old, who was brought to the Philadelphia General Hospital, complaining of paralysis of the right leg and epilepsy. He stated that in 1900 he was shot in the head with a mauser bullet. The bullet entered the left temporal region and came out at the upper right side of the forehead. He was unconscious for seven days and in a hospital for fourteen months. He had no paralysis but after leaving the hospital began to have frequent attacks of what was diagnosed as epilepsy. After a time they became less frequent until finally they occurred only once in several months.

Three weeks before his admission to the Philadelphia General Hospital, he suffered a fracture of the vertex of the skull from a blow at the hands of a policeman. He became unconscious and when he came to himself, ten hours later, found himself in a hospital and learned that he had undergone an operation. He was paralyzed on the right side. Three days later he underwent another operation, the object of which, he was told later, was to relieve the paralysis. In about a week after the second operation he regained considerable power in his right arm but his right leg was unimproved.

Examination.—He is an intelligent man who answers questions clearly but volubly, plausibly, and at times, evasively. There are two scars corresponding to the points of entrance and exit of the bullet in the gunshot wound. There is a triangular recent surgical scar over the vertex of the skull and on the left side under it, a trephine opening.

There is no facial palsy. He moves the right arm and hand and fingers in all directions, but all movements are weak. There is no spasticity of the right arm and sensibility is normal. The right leg he does not move at all. The knee jerks are variable; sometimes the left, sometimes the right being more active. The legs are not spastic. There is no ankle clonus. Stroking the right sole anywhere causes slight, slow flexion of all the toes. Stroking the left sole anywhere causes quick flexion of all the toes and sudden withdrawal of the foot. There is complete anesthesia for touch, pain and temperature, in the right leg below the knee. The upper boundary of the anesthetic area makes an irregular circle around the knee. The area of anesthesia does not correspond with that found in disease of the spinal cord, brain, or peripheral nerves.

After he had been in the hospital a few days he had a convulsive attack which Dr. Burr did not see, but from the description of it given by the resident, it was hysterical.

Dr. Oliver examined the eyes and reports as follows: Perivasculitis with low grade neuritis on both sides, but more pronounced in the left eye. The left pupil is the larger. The irides are equal, mobile to light, accommodation and convergence. There are no coarse changes in the eye grounds.

A few days later he began to regain power in the palsied leg and now he can walk. In doing so he drags the leg stiffly behind him.

At first sight, and with the history given, one would think of an organic hemiplegia. The anesthesia, however, is surely hysterical and his gait is distinctly that of an hysterical paralysis. The slight changes in the eyes are probably due to the gun shot wound and to the fracture near the vertex. It is possible that he has had a slight organic hemiplegia with an hysterical hemiplegia added to it, but Dr. Burr was inclined to believe that the whole thing is a post-traumatic hysterical hemiplegia. He could not speak positively about the nature of the convulsions. Some are surely hysterical but it is very possible that others are genuinely organic.

A BRAIN WITH EXTENSIVE UNILATERAL SOFTENING.

By A. C. Buckley, M.D.

The brain was that of a woman, aged 47, who had suffered from valvular heart disease for about two years, and about four months before her death suddenly lost the use of her right arm and became aphasic. Her spontaneous speech was limited to a few simple expressions as "good morning," "I can't see" (meaning "speak"), "yes," "no"; she named key, pencil, table, chair; to pronounce words was often an effort. Spoken language was apparently well understood and she could read to herself and could promptly correct mistakes when words shown to her were read wrongly aloud by others. She could recognize objects and could indicate their use though unable to name them. She could copy printed words and was able to arrange cardboard letters to form words, both being done with the left hand; there was inability to write the names of objects dictated.

The case appeared to be one of the motor type of aphasia.

Pathologically, there was a rather extensive softening, chiefly confined to the lower part of the central convolution, anterior to the central fissure. Broca's convolution appeared to have escaped. Posterior to the central fissure there was no softening of the ascending gyrus, but the inferior parietal was largely included in the process. The anterior end of the temporal lobe was also softened. The absence of auditory symptoms was doubtless to be explained by the fact that the softening in the temporal bone was evidently of much more recent occurrence than in the other areas and that it occurred during the last week of life, when, on account of the attack of cardiac failure, it was impossible to examine the patient for word deafness.

Dr. Dercum said that it was an interesting specimen because of the absence of involvement—at least by surface examination—of the third frontal convolution. Of course the brain has not been studied as yet and the exact depth of the lesion is a matter to be determined. It looks as though the occlusion of the middle cerebral had taken place beyond the branch which supplies the third frontal convolution, and yet this patient seemed to have had a motor aphasia plus, of course, the sensory phenomena which are usually present. It was a very interesting and important brain.

OPTIC NEURITIS ASSOCIATED WITH DISEASE OF THE FRONTAL SINUS AND ETHMOIDAL CELLS

By S. D. Risley, M.D.

Dr. Samuel D. Risley presented by invitation a paper on optic neuritis associated with disease of the sinuses contiguous to the orbits.

Dr. Weisenburg was very glad that Dr. Risley had presented his patient inasmuch as in the study of the case with him he had for a long time thought that the optic neuritis resulted from a brain tumor, which was difficult to localize because of the absence of specific symptoms. There had been present only the general symptoms of brain tumor, that is, headache, dizziness, some nausea, and at one time suspicion of a slight motor weakness. Dr. Weisenburg had advised a palliative operation because of the persistence of the neuritis. The case was very instructive to him because it showed that in the routine nervous examination of cases in which optic neuritis is present sinus trouble should not be forgotten.

Dr. Alfred Reginald Allen alluded to the possibility in cases such as those reported by Dr. Risley, where operation might not be advisable, of using the Stauungs-hyperemie. Von Schmieden and Meyer have had more or less success in clearing up troublesome conditions. Dr. Allen stated that he had a troublesome case. The idea of treating an optic neuritis by a Stauungs-hyperemie is almost homeopathic, but when you consider the subject it seems a safe plan to try, observing the disk from day to day to see whether you are doing any harm, because if you could prolong the treatment you undoubtedly would clear up the first etiological factor.

Dr. Spiller mentioned a case sent to him by Dr. Hosmer, in which a moderate degree of papilloedema, without other symptoms, suggested brain tumor, and spoke of the necessity of examination of the sinuses in such cases.

Dr. Hosmer stated that in a case referred to by Dr. Spiller there is a low grade bilateral optic neuritis.

On the right side disc margins are obscured with veins tortuous and very slightly over-distended; on the left side the picture is similar with, in addition, many small whitish areas of exudate or degeneration superficially set in that part of the retina arching the temporal side of disc. Etiology remains obscure. Dr. Spiller's findings were practically negative.

Dr. Edsall found evidences of intestinal putrefaction and indigestion.

Rhinological examinations by Dr. Ross Hall Skillern and Dr. Emma E. Musson gave: " Polypoid condition of middle turbinate and fibrous condition of posterior pharyngeal wall may indicate a previous or dormant sinus trouble." . . . "Frontal and antral sinuses normal. Some suspicion of roughness in right sphenoidal sinus. Anterior ethmoidal cells show marked denudation of mucous membrane, some roughening, on the left side granulation tissue. Only a very small amount of pus."

(Dr. Skillern's examination was interfered with by a fresh cold.)

Dr. Dercum said he would be pleased to have Dr. Risley say something about the mechanism of optic neuritis in cases of sinus disease such as he had described. The cases were, of course, instructive in many ways and chiefly instructive to the clinicians who have large amounts of material in their hospitals. The lesson is that cases are at times not studied as exhaustively as they should be.

In closing the discussion, Dr. Risley expressed his gratification that the subject and cases presented had proved of interest to the members of the society. He said that some of the inquiries which had been made would have been answered had time permitted the introduction of other cases which had fallen under his observation. He then narrated at some length the history of a patient in whose behalf he had invited a study by Dr. Mills, who found no evidence of intracranial disease. When first seen the man was blind in the right eye from atrophy of the optic nerve and 'V. = 6/60 in the left, with contracted field and central scotoma. The frontal sinuses and ethmoidal cells were opaque to transillumination; the upper fossa in both nostrils were blocked by polypoid masses and had been for many years; he suffered from insomnia and severe fronto-occipital pain. The polypi were removed with a snare and profuse discharge followed, apparently from the frontal and ethmoid cells, but the man would not submit to amputation of the middle turbinates. After a few weeks treatment of the nostrils and the internal administration of strychnia and potassium iodide, vision in the left eye rose to 6/xv, but no improvement in the field. No study could be made of the sphenoidal sinus without the removal of the large middle turbinates. He neglected local treatment and suffered a return of the complete symptom complex as soon as the drainage from the sinuses was interrupted and V. fell to 6/60, as at first. He then went to Europe for treatment and after five months under the care of Prof. Pagenstecher, who regarded the optic nerve disease as the result of a gouty diathesis, the man returned totally blind and with advanced atrophy in the left optic nerve.

In reply to Dr. Dercum, Dr. Risley said he did not think that it was possible from the ophthalmoscopic study of the optic nerves alone to differentiate between optic neuritis due to intracranial disease and that belonging in the group under discussion. And to Dr. Spiller, that the last case reported pursued to all appearances the course of a simple atrophy. At no time was any swelling of the papillæ observed; nevertheless it may have been present at an earlier stage of its history. Regarding the suggestion of treatment to secure improved nutrition by increased blood supply, Dr. Risley thought that it would not prove useful until free drainage from the sinuses had first been secured.

INDURATIVE HEADACHE (SCHWIELENKOPFSCHMERZ) WITH THE REPORT OF THREE CASES

By N. S. Yawger, M.D.

Indurative headache is of organic origin, chronic and usually paroxysmal, occurring in various parts of the head, and due to deposits at different points, chiefly in the muscles of the head and neck.

The disease has been recognized for years abroad, notably among the Swedes and Germans. References are made to the writings of Norström and Edinger, the latter being quoted as stating that this is probably the most frequent form of organic headache. The cases described are the first reported by an American physician, one being a history of his own attacks. It is sometimes called cephalalgia, cephalodynia, migraine, hemicrania, cranial neuralgia and neuritis, and is due to a deposition at the insertions or within the bodies of the head and neck muscles. The deposition comes and goes at first and later becomes chronic, and when the chronic condition is present a headache may be brought on by fatigue, bad air, chilly and rainy weather when it is sufficient to get within the outer limits of storm conditions and not necessarily within the area of rain fall.

Attacks are most frequent in the fall and spring. It seems likely that the condition is due to an excess of uric acid or an allied substance, and the subjects are often neurasthenic. The depositions are found present in three stages: (1) A swelling. (2) Resistance. (3) Induration. The longer they exist the firmer they become and the more resistance they offer to treatment. During the attack fever and redness are absent. It is said that all cases of headache should be examined by forcible flexion and twisting of the neck which will often bring out pain at the sites of these thickenings in the back of the neck. Exploration can be made advantageously during a paroxysm because the swelling and sensitiveness are then greater. The scalp should be thoroughly palpated for thickenings, irregularities, indurations, and nodules. Points of hypersensitiveness are frequently found in the trapezius, scaleni, splenii and sterno-mastoid muscles along the base of the scalp and adjacent parts of the neck, upon the spinous processes of the upper cervical vertebræ, and in the temporal and supraorbital regions. Many other muscles throughout the body may be invaded and cases have been mistaken for meningitis, appendicitis, sciatica, and deafness has been produced by pressure upon the Eustachian tubes.

The picture presented by lumbago is strikingly similar, inasmuch as it may follow exposure to cold, it may become chronic and offer resistance to palpation, it is relieved by pressure, there is an absence of fever and redness, and it yields to the same treatment. Persons having a tendency to these depositions should drink an abundance of water between meals, avoid fatigue, take out of door exercise, and if it is later proven to be due to an excess of uric acid or an allied substance, the diet should contain a low percentage of purins.

For a severe attack give a purgative, a hot bath, apply hot dry applications locally, and give repeated large doses of sodium salicylate, aspirin, or salophen internally.

For the removal of the indurations, massage and vibration are employed, the former being by far the more effective, and it will take from one to three months to remove the deposits. It is of advantage to use locally an ointment containing methyl salicylate and capsicum during the course of massage. The treatment is complete when the swellings have disappeared and tenderness no longer exists.

THE SYPHILITIC FORM OF MULTIPLE SCLEROSIS

By William G. Spiller, M.D. and Andrew H. Woods, M.D.

The authors said that syphilis may bear a resemblance to multiple sclerosis both in its symptomatology and its pathology. One of them (Spiller) in association with Camp had reported a case which clinically appeared as one of multiple sclerosis from the symptoms of ataxia, intention tremor, scanning speech, pallor of the temporal side of one optic nerve and vertigo. Those who saw the case regarded it as one of multiple sclerosis, and yet the microscopical examination showed round cell infiltration and thickened vessels without sclerotic patches—the common findings of syphilis of the nervous system.

They proposed in this paper to consider the pathological aspect of the subject, and to show that syphilis may cause sclerotic patches in the central nervous system resembling the degeneration of multiple sclerosis without necessarily producing the symptoms of the latter disease.

The symptom-complex of their case was one of spastic paraplegia of the lower limbs with contracture of the limbs and pain produced by passive movements of these limbs, probably because of the contractures; exaggeration of tendon reflexes in both upper and lower limbs, although the reflexes could not be well demonstrated in the latter because of the position of these limbs; and loss of control of bladder and rectum, with preservation of objective sensation. The typical symptoms of multiple sclerosis were absent as there was no mention of scanning speech, intention tremor, nystagmus, etc., and the diagnosis of multiple sclerosis was not made.

While the resemblance between the sclerotic areas in this case and those of ordinary multiple sclerosis was on superficial examination very striking, the two conditions differed in essential features. The round-cell infiltration of the pia; the gradual shading off of sclerotic areas into the normal tissue instead of the sharp line of differentiation; the vascular and perivascular sclerosis in regions of the cord where there was no distinct focus of sclerosis, indicated that the process was syphilitic and distinguished it from the disease known as multiple sclerosis. And yet it is well to bear in mind that in multiple sclerosis the definition between the sclerotic and normal regions is not invariably sharp, and that we may have thickened blood vessels within the sclerotic foci. The authors referred to the recent literature on the subject of their paper and gave as their conclusions from their investigation of the case reported in this paper and other cases:

1. Syphilis may in rare instances produce a symptomatology indistinguishable from that of typical multiple sclerosis, and this without the formation of sclerotic plaques, but by ordinary lesions of syphilis, viz., arteritis and meningitis.

2. Syphilis may produce sclerotic plaques in the spinal cord resembling those of multiple sclerosis, without producing the typical symptoms of the disease. These plaques have not the sharp definition seen in most cases of typical multiple sclerosis, and yet multiple sclerosis may exist without plaques sharply defined from the normal tissue. The syphilitic form of multiple sclerosis presents round cell infiltration of the pia and thickening of the blood vessels. Thickened vessels with a small amount of perivascular sclerosis will usually be found in certain regions without the formation of plaques. In some places slight neurogliar proliferation without thickened vessels may be detected, resembling in no way true plaque formation, but appearing more in the nature of slight diffuse secondary degeneration. Gumma also may occur in the brain. Secondary degeneration is more common in the syphilitic type, but does occur rarely in multiple sclerosis. Nerve fibers are not always completely degenerated in the syphilitic plaques. Careful and thorough examination will almost always, if not always, make a diagnosis possible between the lesions of syphilis and those of multiple sclerosis even though they may have a decided superficial resemblance.

DISEASES OF THE OPTIC NERVE AS AN EARLY OR EARLIEST SIGN OF MULTIPLE SCLEROSIS

By Alfred Gordon, M.D.

Dr. Gordon reported a résumé of his observations in 56 cases of insular sclerosis. In 23 of these cases the optic nerves were involved. In 5 optic neuritis or atrophy was the earliest or the only sign of the disease. Eighteen presented changes in the papillæ, together with other symptoms of multiple sclerosis. In 7 of these 18 retrobulbar neuritis was present at the beginning for a period of from two to five months and optic atrophy developed later. The chief interest of the subject lies in the optic nerve changes as a very early or the only symptom of multiple sclerosis. Dr. Gordon had the opportunity of studying 5 such cases. In the first 3 he could observe the gradual development of the cardinal symptoms of the disease four, twelve and one-half years and six months respectively after the changes in the optic nerves. He presented to the society two additional cases with a curious history of successive involvement of both eyes, and after a careful exclusion of other organic diseases, he pointed out the necessity of accepting the diagnosis of multiple sclerosis. Dr. Gordon emphasized the prognostic importance of the subject.

Dr. Gordon showed a precision esthesiometer devised by himself.

Dr. Price stated that McIntosh and Curschmann in a study of a series of cases of multiple sclerosis found that the earliest symptom the patients complained of was usually some form of motor disturbance. Müller has called attention to the fact that a frequent early symptom is what he describes as muscular fatigue. Very often there is optic atrophy without the patient himself being conscious of it. That may be due to one of two conditions, either that the onset of failure of vision is so gradual that it does not for a time attract the attention of the patient, or from the characteristic of the lesion, that is the tendency to involve the myelin sheaths and leave the essential part of the conducting apparatus, the ganglion cell and axis cylinder intact. In this way there may be considerable optic atrophy without corresponding diminution of vision.

Dr. C. K. Mills said that the instrument which Dr. Gordon had presented was quite ingenious. If he remembered aright many years ago there was a precision esthesiometer described, probably not exactly of the character of Dr. Gordon's, in which a certain length of the needle in making examinations was exposed. He could not recall the exact form of it. It was described, he believed, in an old Ziemssen's Cyclopedia, but whatever it was it never came into general use and he thought that Dr. Gordon's instrument would probably be of considerable value.

Dr. J. W. McConnell stated that there had been an esthesiometer devised with a needle attached to a spring, which worked with a scale on the side so that the pressure could be told by the scale.